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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/934,546 | 08/23/2001 | Akio Konishi | VX012340 | 9184 |

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VARNDELL & VARNDELL, PLLC
106-A S. COLUMBUS ST.
ALEXANDRIA, VA 22314

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| EXAMINER |
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KASTLER, SCOTT R

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| ART UNIT | PAPER NUMBER |
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1742

DATE MAILED: 04/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,546

Applicant(s)

KONISHI, AKIO

Examiner

Scott Kastler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 26 February 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Election/Restrictions

Claims 3 and 4 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 7.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by either of Ueda et al'074 or Ueda et al'720. Both of Ueda et al'074 and Ueda et al'720 teach an apparatus (see figure 6 in Ueda et al'720 and figure 5a in Ueda et al'074 for example) including a container (6) in which molten material can be melted and mixed, a funnel or pouring port (1) for pouring the molten material onto a rotating disk (2) where the rotating disk can be made entirely of silicon nitride (see col. 2 lines 31-37 of either of Ueda et al'720 or Ueda et al'074, and therefore of "uniform structure") and the disk is supported by a stem (the structure below disk 1 in fig. 3 for example) thereby showing all aspects of the above claims since the actual manner or method of use of the claimed apparatus (for fabricating a thermoelectric material) cannot be relied upon to limit claims to the apparatus itself. See in re Casey, 152 USPQ 235 and MPEP 2114.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over either of Ueda et al'074 or Ueda'720, further in view of Hogg. As applied to claim 1 above, either of Ueda et al'074 or Ueda'720 show all aspects of the above claim except to specifically teach that the disk is made of β -sialon type silicon nitride material, although, as stated with respect to claim 1 above, both Ueda et al'074 and Ueda et al'720 allow for the use of silicon nitride containing material in general. Hogg teaches that it was well known in the metallurgical arts at the time the invention was made to construct metallurgical components which are made of silicon nitride materials of β -sialon type silicon nitride containing material, because of the superior properties exhibited by these materials (see col. 1 lines 5-42 for example). Because the improved properties described by Hogg would also be desirable in the rotating disk (2) made of silicon nitride materials of either of Ueda et al'074 or Ueda et al'720, motivation to construct the disk (2) of either of Ueda et al'074 or Ueda et al'720 of the β -sialon type silicon nitride material described by Hogg, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Allowable Subject Matter

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, at least because none of the cited or applied prior art shows or fairly suggests the feature of an integrated stem and disk structure where each of the stem and disk are made of a uniform structure of a silicon nitride material as required by the above claim.

Response to Arguments

Applicant's arguments filed on 2-26-2003 have been fully considered but they are not persuasive. Applicant's argument that the Ueda et al references do not show a disk made of uniform silicon nitride material is not persuasive. Both of the Ueda et al references clearly recite disks which can be made entirely of silicon nitride materials as explained in the above rejections. The claims as presently written do not prevent the addition of additional components attached to the disk (the extra structures argued by the applicant on pages 5 and 6 of the arguments). It is noted that the instant claims, by their "comprising" language allow for other, unnamed structures to be present in the claimed apparatus. Applicant's further argument that the Ueda et al references teach that other materials may also be used, and the disk of the Ueda et al references are not limited to being made of silicon nitride is also not persuasive because as explained above, silicon nitride is expressly recited in the Ueda et al references as a material for the construction of the disk (2). Finally, applicant's argument that the Ueda et al references do not teach a "uniform" silicon nitride structure is not persuasive because the Ueda et al references teach a disk made entirely of silicon nitride, and therefore is of "uniform" structure.

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With respect to newly added claim 9, this claim is seen to be allowable over the instantly cited prior art at least for the reasons given above under the heading of "Allowable Subject Matter".

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (703) 308-2506. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-3050. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Scott Kastler
Primary Examiner
Art Unit 1742

sk

April 21, 2003
